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Risinger, Robert E.

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AN EXAMINATION OF THE THEORY
"THE BURDEN OF THE PUBLIC DEBT"

ROBERT E. RISINGER

AN EXAMINATION OF THE THEORY
"THE BURDEN OF THE PUBLIC DEBT"

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Robert E. Risinger

AN EXAMINATION OF THE THEORY
"THE BURDEN OF THE PUBLIC DEBT"

by

Robert E. Risinger

Lieutenant, Supply Corps, United States Navy

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF SCIENCE
IN
MANAGEMENT

United States Naval Postgraduate School
Monterey, California

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AN EXAMINATION OF THE THEORY
"THE BURDEN OF THE PUBLIC DEBT"

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This work is accepted as fulfilling
the research paper requirements for the degree of

MASTER OF SCIENCE

IN

MANAGEMENT

from the

United States Naval Postgraduate School

ABSTRACT

The accepted and taught doctrine of public debt theory has been that the burden of public debt is borne by those persons present at the time of deficit expenditure. In 1958 a book, Public Principles of Public Debt, by Professor J. M. Buchanan, challenged this proposition by asserting that the public debt burden was borne by those persons present at the time the debt was redeemed.

The purpose of this study has been to examine those arguments set forth by Professor Buchanan and others, both for and against, in an effort to clarify the question of the transferability of public debt burden.

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CHAPTER I

THE PROBLEM

The theory of public debt burden has, in general, most economists agreeing on the basic concepts. However, in 1958 a new book appeared on the scene which was to have significant consequences on the subject. The following words of Professor Gordon Tullock summarize the situation:

In 1958, Professor James Buchanan published a book contending that almost all economists had been wrong and that President Eisenhower was fundamentally right. The startling nature of this thesis, together with the cogency of the arguments offered for it created a small crisis for many economists. The idea that the common man was more sophisticated on a rather important point than the economics profession was not only intellectually, but emotionally disturbing. The consequence has been a continuing debate in which a group of young "radicals" defending Buchanan have been opposed by older and more conservative scholars in the field of public finance. The debate has surely generated more heat than light, but it has served to illuminate a number of dark corners.¹

Those precepts under attack are best set forth by A. P. Lerner in his paper, "The Burden of the National Debt," as quoted by Buchanan. The following excerpts will suffice:

¹Gordon Tullock, "Public Debt-Who Bears The Burden?," Rivista di diritto finanziario e scienza della finanze, XXII (June, 1963), pp. 207-13. Reprinted in James M. Ferguson (ed.) Public Debt and Future Generations. (Chapel Hill: The University of North Carolina Press, 1964), p. 101.

'By far the most common concern about the national debt comes from considering it as exactly the same kind of thing as a private debt which one individual owes to others. . . . (p.255)

The simple transferability of this rule to national debt is denied by nearly all economists. . . . (p. 255)

One of the most effective ways of clearing up this most serious of all semantic confusions is to point out that private debt differs from national debt in being external. It is owed by one person to others. That is what makes it burdensome. Because it is interpersonal the proper analogy is not to national debt but to international debt. . . .

But this does not hold for national debt which is owed by the nation to citizens of the same nation. There is no external creditor. "We owe it to ourselves." (p. 256)

One variant of the false analogy is the declaration that national debt puts an unfair burden on our children, who are thereby made to pay for our extravagances. Very few economists need to be reminded that if our children or grandchildren repay some of the national debt these payments will be made to our children and grandchildren and to nobody else (p. 256)²

A further perusal of almost any modern work on the subject would give you the same approach. Ferguson puts it thus:

Most economists in recent decades have agreed that society as a whole composed of a fixed population bears no burden in future periods of any public expenditure financed internally by public debt (or taxes) which occurs in the current period. The real cost or burden of the project is the real resources withdrawn from the private sectors in the period of the expenditure. There is no way that debt financing enables real resources to be transferred from the future to the present. Some citizens in future periods may pay taxes and some receive interest pay-

²James M. Buchanan, Public Principles of Public Debt (Homewood, Illinois: Richard D. Irwin, Inc., 1958), p. 12.

ments but these are transfer payments involving no real burden, because no real resources are used up in the process.³

And Meade writes the following on the internal-external debt subject:

It is well known that an external debt is a burden on a community, since there must be a transfer of real goods and services from the debtor to the creditor country in payment of interest and sinking fund on the debt. A domestic debt, on the other hand, means merely a transfer from citizens as taxpayers to citizens as property-owners, so that there is no direct loss of real goods and services to the citizens as a whole.⁴

And on the general subject Buchanan indicates:

. . . the ideas central to the new orthodoxy are indeed old ones. They have been fully recognized in nearly all pre-Keynesian fiscal theory discussion. .
.⁵

Since the previous quotations are somewhat broad in scope the subject of this study shall be emphasized specifically as an examination of the transferability of the public debt burden, the basic question being who is correct, Professor Lerner and the more conservative economists or Professor Buchanan and his group of young liberal economists? As a foundation for the ensuing argument, the precepts, previously quoted above, of Lerner,

³James M. Ferguson, "Introduction," Public Debt and Future Generations, p. 3.

⁴James E. Meade, "Is the National Debt a Burden," Oxford Economic Papers, X (June, 1958), pp. 163-83. Reprinted in James M. Ferguson (ed.) Public Debt and Future Generations, p. 20.

⁵Buchanan, op. cit., p. 19.

Ferguson and Meade shall be assumed to represent the most generally accepted, and taught, doctrine.

Associated with this particular subject, although of no concern to this study, is a very definite attitude on the part of the voter and the policy maker in the establishment of monetary and fiscal policy so important to the nation's economy. Unfortunately, the average individual and many elected representatives consider the burden of public debt, as well as the public debt itself, to be very germane to fiscal policy. However, it is most generally agreed among economists that the subject under debate should have very little, if any, bearing upon fiscal policy. Professor Mishan very strongly criticizes Buchanan and supporters for even raising the issue in fear of the possible political ramifications.⁶

One other significant problem, as put by Buchanan, is that, ". . . clarity is not one of the characteristic features of the literature in this field."⁷ An effort will be made to present the various arguments in such a manner as to clarify.

Since much of the argument is basically concerned with semantics only those terms having clear and un-

⁶E. J. Mishan, "How to Make a Burden of the Public Debt," The Journal of Political Economy, LXXI (December, 1963), p. 542.

⁷Buchanan, op. cit., p. 48.

contested meanings will be defined. Public debt is defined to be that portion of internally financed public debt issued by the federal government. Such a debt is oftentimes referred to as national debt. Internal debt is that share of the public debt which is held by citizens of the debtor nation. External debt would be that portion of the public debt held by persons, organizations, or governments foreign to the debtor community, state, or nation. Unless otherwise specifically stated all reference to public debt in this paper will be on the assumption that the entire public debt is internal debt. Full employment of the economy is defined in the true economic sense to include full employment of all resources.

This study was conducted within the bounds of the material offered at the U. S. Naval Postgraduate School Library. An effort was made to review all the arguments which have transpired as an outgrowth of Professor Buchanan's Public Principles of Public Debt. A review of all the leading economic journals available at the library was made in an effort to obtain the material in its original source. In some cases where this material was not available, Public Debt and Future Generations, edited by James M. Ferguson, was utilized. This publication contains a complete reprint of almost all of the pertinent articles.

The time span of this study covers the period 1958

to the present date.

CHAPTER II

THE STUDY

The procedure to be employed in this study shall, as much as possible, be a chronological examination of the most significant arguments on the subject. The fundamental concepts generally accepted by the majority of economists, as presented in Chapter I, will be assumed as the standard. It will, therefore, be the purpose of this chapter to begin examination with the conflicting arguments set forth by Professor J. M. Buchanan in Public Principles of Public Debt. Following this will be pertinent arguments complementing or refuting the Buchanan propositions.

The basic argument to be investigated pertains to the placing of the public debt burden on a specific generation. As noted previously, the accepted doctrine states that the burden of internally financed public debt is borne at the time of public expenditure. The burden is defined to be the sacrifice associated with the withdrawing of resources from private consumption and the investment of these resources for public expenditure. Such a public expenditure would be for the betterment of the community as a whole, and would be weighed against alternative uses of the resources, either public or private. Buchanan disagrees with this doctrine

and puts forth the following arguments to support his argument.

Buchanan argued that "The mere shifting of resources from private to public employment does not carry with it any implication of sacrifice or payment."⁸ His reasoning was that the purchase of government bonds is a voluntary act of the individual and by such a purchase the individual is presumably moving to a more preferred position on his utility surface. Then, if this is true, obviously the individual is not making any apparent sacrifice or burden. Therefore, if there is no individual sacrifice there can be no collective sacrifice for the nation as a whole.⁹

In keeping with his hypothesis that the reverse was true, i.e., the burden of debt is shifted into future periods, Buchanan stated that, "if we can isolate the group who will be worse off . . . we shall have located the bearers of the primary real burden of the debt."¹⁰ Since the taxpayer at the time of debt creation bore no burden, the burden must rest with the taxpayer who is present when the debt is redeemed. This burden is defined as the resources given up to retire the debt. To refute any possible argument that the public expenditure might be productive and result in benefits to the future taxpayer Buchanan acknowledged the following:

⁸Buchanan, op. cit., p. 34. ⁹Ibid., p. 35. ¹⁰Ibid., p. 40.

. . . the benefits to the future taxpayer must, of course, be compared with the burden so that, on balance, he may suffer a net burden. But a normal procedure is to separate the two sides of the account and to oppose a burden against a benefit, and this future taxpayer is the only one to whom such a burden may be attributed.¹¹

In the final point of his argument with the "new orthodoxy", on this subject, Buchanan took issue with ". . . the careless use of national income accounting. . ." He contends that the error is in focusing attention "on the national or community balance sheet rather than on individual or family balance sheets."¹² Because of this error there is no net change to the aggregate totals making up the national balance since it contains both the bondholders and the taxpayers. He continues that:

" . . . the nation or community is not a sentient being, and decisions are not made in any super individual or organic way. Individuals and families are the entities whose balance sheets must be examined if the effects on social decisions are to be determined."¹³

In the conclusion to his argument, Buchanan emphasized the following:

. . . The primary real burden of a public debt does rest largely with future generations, and that creation of debt does involve the shifting of the burden to individuals living in time periods subsequent to that of debt issue. This conclusion is diametrically opposed to the fundamental principles of the new orthodoxy . . .¹⁴

¹¹Ibid., p. 40. ¹²Ibid., p. 41.

¹³Ibid.¹⁴Ibid., p. 47.

In view of the literature that followed, very few economists accepted his analysis in toto. Although many of the more liberal economists were to accept his general proposition, they did so only after making certain refinements. These comments, however, were to follow some very critical and opposing book reviews. The following reviews indicate the initial impact of the argument upon the more conservative economists.

In one of the early book reviews of Professor Buchanan's book, Alvin H. Hansen in the Review of Economics and Statistics argued that:

. . . Professor Buchanan appears to exclude altogether the matter of real sacrifice - harder work and restricted consumption - and to limit himself to exclusively the financial considerations. It is, however, the real factors that are important: in particular the impact of the borrowing upon the real income and real assets of future generations.¹⁵

In still another review, Professor A. P. Lerner asserts that Buchanan is not disputing the "new orthodoxy" view:

. . . that a closed society cannot shift any burden from the present into the future by borrowing money for itself but what he is really showing is that it is possible by borrowing instead of taxing to make the public at-large feel richer . . . thus inducing it to consume more, so that less can be invested. This is indeed a real burden on

¹⁴Ibid., p. 47.

¹⁵Alvin H. Hansen, (Review of Public Principles of Debt), "The Public Debt Reconsidered," The Review of Economics and Statistics, XLI (June, 1959), p. 378.

future generations. But the artificiality of saying that it is the debt that constitutes this shift of burden from the present to future generations can be brought out by noting that this burden would in no way be mitigated by the repudiation of the debt at any time in the future. The New Orthodoxist would merely say that investment enriches future generations, and anything that reduces investment or induces disinvestment puts this kind of burden on the future. He would deal with such effects of debt or of borrowing under the heading of indirect or secondary effects. . . .¹⁶

In a later review of this same book, Earl R. Rolph indicated that he failed to find the meaning of the phrase "primary real burden of the public debt" which was so fundamental to the analysis. He further pointed out that "no firm principle emerges from the discussion."¹⁷ Rolph's concluding comments were that:

Buchanan has provided a stimulating work calling for a re-examination of fundamental ideas in economics. Its success will depend upon the amount of controversy it provokes; it is so designed.¹⁸

After a rather harsh reception by the "new orthodoxy" of Buchanan's views a number of younger less conservative economists climbed on the Buchanan bandwagon. This group was later to be labeled the "new heretics" by Professor

¹⁶Abba P. Lerner, (Review of Public Principles of Public Debt), The Journal of Political Economy, XLVII (April, 1959), pp. 205-6.

¹⁷E. R. Rolph, (Review of Public Principles of Public Debt), The American Economic Review, XLIX (March, 1959), pp. 185.

¹⁸Ibid.

Mishan.¹⁹ Prominent among the "new heretics" was Professor Franco Modigliani of Northwestern University and a group consisting of William G. Bowen, Richard G. Davis, and David H. Kopf from the Economics Department of Princeton University.

The first published essay in support of Buchanan was by Bowen, Davis, and Kopf. Their following comments summarize their intentions:

J. M. Buchanan is one of the few contemporary economists to argue in favor of the proposition that the real burden of a public debt can be shifted to future generations. It was Buchanan's stimulating book that started the train of thought that has resulted in the argument contained in this paper. The reason for the present paper is that while Buchanan has arrived at essentially the same conclusion, he has apparently not succeeded in convincing very many people that he is right - at any rate he has not convinced several reviewers of his book. Perhaps the reason these reviewers have not accepted Buchanan's conclusion on this point is that Buchanan: (1) does not always define "real burden" in a sufficiently clear manner; (2) defines "generation" in such a manner that the same person can be considered a member of many different generations; and (3) relies on what Rolph has called a proof by indirection". We have tried to avoid these pitfalls.²⁰

BKD first proceed to redefine real burden after first acknowledging that if one accepts the standard definition (i.e. ". . . the total amount of private consumption goods given up by the community at the moment

¹⁹Misham, op. cit., p. 530.

²⁰William G. Bowen, et. al., "The Public Debt: A Burden on Future Generations," The American Economic Review, LI (March, 1961), p. 701.

of time borrowed funds are spent")". . . the cost of the public project simply must be borne by the generations alive at the time the borrowing occurs."²¹ It was their contention that real burden could be defined in such a way as to permit a shifting of the debt burden to future generations. They were to define:

. . . the real burden of a public debt to a generation as the total consumption of private goods foregone during the lifetime of the generation as a consequence of government borrowing and attendant public spending.²²

They were next to assume a full-employment model made up of ". . . an identifiable generation of people, all of whom are . . . 21 years old."²³ It was further assumed that this same generation, to be labeled "Generation I", would purchase all the bonds necessary to finance a specific government expenditure.

"Generation I" was to hold the bonds for 44 years, at which time they would sell to "Generation II", all of whom were 21 years of age. All the funds received from the sale, by "Generation I" were to be spent prior to their death, the point being that there had been no change in their total lifetime consumption.

If Generation II were to sell to Generation III, etc, in which case as long as none of the bonds were retired no generation would bear a burden. However, if some

²¹Ibid., pp. 701-2. ²²Ibid., p. 702. ²³Ibid.

generation were to retire some or all the bonds that particular generation would experience a reduction to total lifetime consumption and consequently bear a burden. Thus, indicating that the burden had been shifted forward to a future generation.²⁴

Although BDK continued in their essay to elaborate with the same general analysis no further significant contribution to the Buchanan proposition was made. However, a few months later three commenting articles were to appear, still in support of the Buchanan hypothesis, but offering constructive criticism to the BDK approach.

In the first of these articles, William Vickrey agreed they were right, but suggested that their approach was "needlessly roundabout and largely irrelevant. . . ." ²⁵ He asserted that their model might apply during a situation similar to that of World War II, but that it would be inappropriate in an economy of free and expanding consumption. Vickrey argued that the Bowen-David-Kopf assumption provides for a reduction in private consumption at the time of the debt-financed project and is contrary to what could normally be expected under such a situation. Vickrey continues that:

²⁴Ibid., pp. 702-3.

²⁵William Vickrey, "The Burden of the Public Debt: Comment," The American Economic Review, LI (March, 1961), p. 132.

Only if savings were highly interest-elastic and investment highly inelastic, or if the project financed were specifically such as to substitute directly for consumption expenditure could it be assumed that the resources used would be derived from a reduction in private consumption.

The shifting of the burden to the future that is produced by debt financing is then essentially the shifting of resources out of private investment and into consumption that is induced by the change in method financing.

.

In the Bowen-Davis-Kopf representation, where the resources required by the project come from consumption, the productive capacity of the economy is unimpaired . . . If there is any burden here, it lies in the impairment of the capacity of the future to pull this stunt themselves. . . . In any case, there exists an unavoidable "real" burden on future generations whenever the more tangible resources available to the future generations are impaired.²⁶

Tibor Scitovsky was next to attack the Bowen-Davis-Kopf approach. Scitovsky indicated that they ". . . had failed to prove . . . the majority of professional economists wrong. . . ." ²⁷ He did agree, however, with an argument initially introduced by Buchanan which they had also included in their essay. The argument being that if the government debt-financed project proved to be unproductive and failed to raise GNP a burden would be imposed. His major point of disagreement with the BDK analysis is as follows:

²⁶Ibid., p. 134.

²⁷Tibor Scitovsky, "The Burden of the Public Debt: Comment," The American Economic Review, LI (March, 1961), p. 137.

I part company with the authors when they speak of yet another burden imposed by and at the time of redemption of the bonds. They argue that when the government repays the debt, the additional taxation reduces disposable income and hence consumption, while the replacement of the public's holdings of bonds by cash has little or no effect on its market behavior, so that on balance consumption is reduced, which, they assert, is the main burden of the debt. This would be all right, except that the authors forget about the crucial assumptions of full employment they made earlier. If full employment and stable prices obtain when the debt falls due for redemption and an unenlightened government raises taxes (or lowers public spending) in order to create the budgetary surplus needed to redeem the debt, then the redemption will lower GNP and inflict a burden on society - but the assumption of full employment has thus been abandoned half-way. If on the other hand the government successfully offsets the restrictive effects of its budgetary surplus by a monetary policy designed to encourage private investment, then the resulting rise in GNP will offset the effect of higher taxes on disposable income and no burden will be imposed on the public.²⁸

In reply to the comments of Vickrey and Scitovsky, Bowen, Davis, and Kopf hold their original position. They contend that Vickrey's paper in reality ". . . complements - rather than competes with . . ." their position. And while acknowledging their error in full-employment analysis, indicated by Scitovsky, still contend that this has no effect on their analysis because of the lifetime total consumption definition of real burden.²⁹

²⁸Ibid., p. 138

²⁹William G. Bowen, et. al., "The Burden of Public Debt; Reply," The American Economic Review, LI (March, 1961), pp. 141-3.

Professor A. P. Lerner was soon back in the thick of the argument. In a paper commenting on the BDK position Lerner strongly admonished BDK (and Buchanan) for playing linguistic tricks. He agrees that with the assumptions and definitions employed by BDK the burden would be shifted from this generation to the next generation. However, he denies that this analysis is germane to the question of debt burden.³⁰ Lerner argues that:

The real issue . . . is not whether it is possible to shift a burden (either in the present or in the future) from some people to other people, but whether it is possible by internal borrowing to shift a real burden from the present generation, in the sense of the present economy as a whole, onto a future generation, in the sense of the future economy as a whole. . . . (and) that the latter is impossible because a project that uses up resources needs resources at the time that it uses them up, and not before or after.

This basic proposition is true of all projects that use up resources. The question is traditionally posed in terms of the burden of a public project financed by privately held internal debt; but the proposition is quite independent of whether the project is public or private as well as whether the debt is private or public. The proposition holds as long as the project is financed internally, so that there are no outsiders to take over the current burden by providing the resources and to hand back the burden in the future by asking for the return of the resources.³¹

The fallacy in composition accusation arises again

³⁰Abba P. Lerner, "The Burden of Debt," The Review of Economics and Statistics, XLII (May, 1961). Reprinted in James M. Ferguson (ed.), Public Debt and Future Generations, pp. 91-3.

³¹Ibid., p. 93.

against the "new heretics" as Lerner continues in support of the above quoted proposition.

It is necessary for economists to keep repeating this basic proposition because one of their main duties is to keep warning the people against the fallacy of composition. To anyone who sees only a part of the economy it does seem possible to borrow from the future because he assumes that what is true of the part is true of the whole.³²

In reply to the preceding comments of Lerner, BDK were again quite adamant in their contention that the issue involved was not "a Terminological dispute".³³ However, since their initial model of "Generation I, II, etc. had drawn so much criticism they found it necessary to devise a new model "to try to remove any vestiges of semantic confusion". In this model those individuals alive at time t_0 would be referred to as "Set I". The set would be called the same but through the process of births and deaths its composition would change.³⁴ The argument was to continue in basically the same vein as the original "Generation I" model.

It is interesting to note the great similarity of this "Set I" model and the original Buchanan model. More interesting yet, is the fact that the initial

³²Ibid.

³³William G. Bowen, et. al., "The Distribution of the Debt Burden: A Reply," The Review of Economics and Statistics, XLIV (February, 1962). Reprinted in James M. Ferguson (ed.), Public Debt and Future Generations, p. 96

³⁴Ibid., p. 97.

Bowen, et al, model was devised in an effort to overcome the inadequacies of the original Buchanan model.

In concluding their reply to Lerner, BDK continued noting the following differences of opinions:

In our analysis it is individuals, with their claims against consumption goods, who move through time, not real resources. Our analysis is concerned with the effects of debt finance on the distribution of life-time consumption between persons alive at the time the borrowing occurred and persons yet to come, not on the level of output of the economy as a whole at different points in time.

Lerner, on the other hand, seems unwilling to speak of the "burden of the debt" in terms of any measure other than induced changes in the level of national income. This is the way in which economists have become accustomed to defining the burden of the debt, it is one useful way of looking at the effects of debt finance, and we of course agree with Lerner that debt-financing produces a burden in this sense only if there are effects of the investment-consumption mix.³⁵

Hans Neisser was one of the next to appear in support of the "new heretics". Although agreeing with the basic concepts of BDK, he contended that his model would provide a "simpler refutation of the new orthodoxy",³⁶ and at the same time . . . "clarify certain points not touched on"³⁷ previously. Neisser is concerned with the real capital available to future generations. It is his argument that

³⁵Ibid., p. 99

³⁶Hans Neisser, "Is the Public Debt a Burden on Future Generations?" Social Research, (Summer, 1961). Reprinted in James M. Ferguson (ed.), Public Debt and Future Generations, p. 146.

³⁷Ibid.

deficit financing places a burden on future generations by reducing the amount of real capital available to them.

The Neisser analysis is based on the assumption that the funds to finance deficit expenditure come almost entirely from funds that would have been available for private capital expenditure. This, as opposed to the case of tax financing for the public expenditure, where funds would come in part from a reduction in private consumption and in part from a reduction in private capital expenditure. The argument is that in the deficit situation the stock of real capital available would be less to a future generation than if the expenditure had been financed by taxation.

Neisser is first to admit, however, that:

This principle, however, holds only when the condition of full utilization is satisfied. When it is not there are two situations in which government borrowing does not imply a burden on the future. First, if the inducement to invest is inelastic, private investment may fall short of the saving potential, even at the lowest possible interest rate, and thus government borrowing would not reduce private investment. . . . And second, if current private investment, though equal to the saving potential, is so high that a further appropriate increase . . . cannot be expected, and that therefore underutilization is likely in subsequent periods, current government borrowing will not reduce future income and consumption.³⁸

Jack Wiseman, a Britisher, was one of the next individuals to join in the fray. Wiseman attributed the problem to the "macro-economic approach of the new

³⁸Ibid., p. 147.

orthodoxy". He also stated that:

. . . the "burden propositions, as formulated by classical writers and by supporters of the "new orthodoxy" are so vague as to defy precise interpretation. This is done to the persistence, in debt discussion, of general statements about burden which obscure the diversity of the relevant economic considerations.

. . . In general the approach in the "burden" discussion has been on a "partial equilibrium" kind, in that it has been assumed that it is possible to compare the situation of a community with a public debt and that of one in which debt does not exist but in which all other economic magnitudes and relations remain unaltered.

. . . to be realistic and useful, discussion of debt policy must distinguish between the raising and the spending of money by the government, and must consider the raising of debt in relation to other courses that the government might have followed. .
..³⁹

In concluding, Wiseman suggested that the entire argument of debt burden be considered pointless, and that economists could better utilize their time in "the study of particular situations in which the raising or retirement of debt is one of the possible means of pursuing a specified objective."⁴⁰

One of the most novel models submitted in support of the "new heretics" was introduced by Gordon Tullock. In this model the government was to come into possession (free) of a gold producing machine. There was no operating

³⁹Jack Wiseman, "The Logic of National Debt Policy," Westminster Bank Review (August, 1961). Reprinted in James M. Ferguson (ed.), Public Debt and Future Generations, p. 180.

⁴⁰Ibid., p. 181.

cost, etc. associated with the machine, however, each gold bar produced must be returned to the machine twenty years hence.

By further elaboration for convenience of the purchaser of the gold bar, the government issued only warehouse receipts (in effect, bonds) and paid a storage fee (in effect, interest) on the gold in the warehouse.

Obviously, since the purchaser does so voluntarily he cannot be assumed to be burdened. However, when the government must raise taxes to buy the warehouse receipts back to return the gold to the machine, the taxpayer or "future generation" is making some sacrifice. The real clincher for this argument is when another free machine appears at the end of 18 years that tells the first machine that it doesn't need to get its gold back. The point being that the entire burden of the original expenditure would thus disappear. If the burden is borne by the gold (bond) redeemer (taxpayer) there is no problem since this is two years hence. But if the burden were borne at the time the gold was sold then the burden would be "eliminated retroactively, which is absurd."⁴¹

Still another writer in support of the "new heretics" came forward with an elaboration of an approach previously used by Vickrey. This writer, H. Laurence Miller, Jr., assumes a situation where the community has financed a

⁴¹Tullock, op. cit., p. 106.

a public project of long term benefits, to all members of the community, by public debt. The assumption, of the community, being that in this way future members of the community will therefore also be required to bear part of the burden. It also follows that the members of the present community suffer no burden in the sense of a reduction in utility. They have just moved from one to a more preferable level on their utility plane. And since in addition no one has paid any taxes, Miller continues, "a tax burden in the form of a compulsory reduction in consumption opportunities is shifted into the future."⁴² At this point there appears to be little if any difference between this analysis and the analysis of Bowen-David-Kopf.

Miller, however, differs from Bowen-Davis-Kopf as he continues:

We have been assuming that all members of the community are supporting this action with full knowledge that a tax liability is being shifted to the future, that they expect a tax in the future if they receive a benefit, and that they know that the only reason for not levying the full cost of the public investment in taxes is . . . inability to assign future benefits to present persons in this situation, the probability of a future tax equals the probability of a future benefit for every member of the community, and "shifting the burden" refers to exchanging a certain reduction in

⁴²H. Laurence Miller, Jr., "Anticipated and Unanticipated Consequences of Public Debt Creation," Economica, XXIX (November, 1962). Reprinted in James M. Ferguson (ed.), Public Debt and Future Generations, p. 166.

consumption now (or later, if the individual can borrow to pay taxes) for some probability less than one of a reduction in consumption (offset by receipt of a benefit) later.

In summary, we have said that public borrowing plus spending can shift a burden from the present to the future where everyone understands what the government is doing, and has no hope whatsoever of pushing taxes off on to others, in the sense that each individual exchanges a certain reduction in consumption for a less certain reduction in consumption.⁴³

Miller further asserts that his analysis is valid regardless of the outcome of the public investment on private capital investment.⁴⁴

Carl S. Shoup was next to contribute a paper commenting on the Buchanan hypothesis and the Bowen-Davis-Kopf analysis. Shoup agreed to some extent with Lerner that neither had any argument with the accepted doctrine. Shoup stated:

It is not the simple argument that since resources are used up at the time of government expenditure, the generation living at the time of expenditure will bear the burden. What the new analyses are opposing, or by-passing as unimportant or irrelevant, or supplementing, is the more sophisticated view that the burden can be passed on to future generations, but only in so far as the present generation responds to the Government's action by reducing its rate of savings.

.

Now the less the first generation decreases its consumption, the smaller is the capital stock handed down to the second generation. In this sense, and only in this sense . . . can financing by bonds lay a burden on the second generation, relative to

⁴³Ibid., p. 167.

⁴⁴Ibid., p. 168.

financing by taxes. The burden consists of inheriting a smaller stock of capital instruments than otherwise.⁴⁵

Shoup commented as follows on the BDK argument that Generation II would bear the burden if it retired the Debt:

This thesis may at first appear to run counter to the older analysis, which asserted that a future generation could be burdened only if its patrimony were impaired by the generation during whose lifetime the government expenditure was incurred. Under the BDK scheme . . . Generation II and the following possess just as much capital equipment as they would have possessed if no government expenditure and financing had occurred; yet BDK conclude that they are bearing part of the burden.

If we look at this conclusion closely we see that it does not contradict the traditional analysis. In real terms, and disregarding the paper transactions that evidence them . . . BDK's Generation I does impair the capital of the economy. It does pass on to Generation II a smaller amount of capital equipment than would have been in existence if the government expenditure had not been made. Generation II makes good this impairment, right away, by restricting its own consumption in the very year that Generation I is enjoying its increment of consumption. Generation II thereupon possesses the same stock of capital that it would have possessed if there had been no government expenditure. . . .⁴⁶

The views and comments on the proceeding pages have in general been complementary to the analysis of Buchanan or Bowen-Davis-Kopf theses. As such they all have about the same general approach to the subject in question. There was, however, another protagonist in the argument who had a somewhat different approach. This individual,

⁴⁵Carl S. Shoup, "Debt Financing and Future Generations," The Economic Journal, LXXII (December, 1962), pp. 887-8.

⁴⁶Ibid., pp. 890-1.

Franco Modigliani, in the introduction of his paper acknowledged the contributions of Buchanan and others, but also noted that these most recent contributions had failed.

. . . to provide an altogether adequate framework - a failure resulting at least in part from the Keynesian tendency to emphasize flows while paying inadequate attention to stocks. It is the purpose of this paper to propose a fresh approach to this problem, and to show that, unlike its predecessors, it leads to a consistent and yet straightforward answer to all relevant questions.⁴⁷

Modigliani then indicated the following approach:

. . . the central contention of our analysis is that to grasp fully the economic effects of alternative fiscal policies and of the National Debt, we must pay proper attention to stocks as well as to the usual flow variables and to the long-run as well as to the impact effects.⁴⁸

In stating that his paper would present a new approach, Modigliani was certainly correct as far as framework is concerned. He was to define National Debt as, "all claims against the Government held by the private sector of the economy, or by foreigners, whether interest-bearing or not . . . and any claims held against the private sector and foreigners,"⁴⁹ a definition far broader in scope than used in other analysis of the subject.

⁴⁷Franco Modigliani, "Long-Run Implications of Alternative Fiscal Policies and the Burden of the National Debt," The Economic Journal, LXXI (December, 1961), p. 730.

⁴⁸Ibid., p. 731.

⁴⁹Ibid., pp. 730-1.

Modigliani contended that the substantive implications of his approach were: (1) deficit government expenditure was advantageous to those individuals at the time of the expenditure; (2) future generation would bear a gross burden because of a reduction in the stock of private capital, caused by the deficit expenditure; (3) the reverse would also be true for a reduction in national debt; (4) assuming that the interest rate at which the government borrows is an approximation of the marginal productivity of private capital, "the gross burden for gain to future generations . . . can be measured by the interest charges on the national debt";⁵⁰ (5) contributions to future generations by the national debt may be less than, equal to, or greater than the burden.

Modigliani first attacked the basic hypothesis of "new orthodoxy", i.e. the burden is borne by those present at time of deficit, as follows:

The fallacy . . . is not difficult to uncover. It is quite true that a closed community cannot increase its current resources by relying on tomorrow's unproduced output. None the less, the way in which we use today's resources can effect in three major ways the output that will result tomorrow from tomorrow's labour input; (i) by affecting the national resources available to the future; (ii) by improving technological knowledge; and (iii) by affecting

⁵⁰Ibid., p. 731.

the stock of man-made means of production, or capital, available to future generations. Hence government expenditure, and the way it is financed, can affect the economy in the future if it affects any of the above three items.⁵¹

His argument was:

. . . the demand of the private sector consists of consumption C and capital formation I , and at least the latter component depends not only on income and taxes but also on monetary policy.

. . . in most circumstances . . . there will be a range of values of T [taxes] such that the corresponding $r(T)$ [the appropriate rate of interest, r , for that particular value of T] is achievable by an appropriate monetary policy. There is therefore not one but a whole schedule of values of T which are consistent with the maintenance of full employment and price stability, each value of T being accomplished by an appropriate monetary policy. Furthermore, within this range there will tend to be a direct connection between T and the capital formation component of P [private sector demand for output]. If, starting from a correct combination of T , r , and M [quantity of money], we lower taxes we will increase consumption, and to offset this we must reduce capital formation by appropriate monetary policy Thus, given the level of government expenditure, the level of taxes, and hence of budget deficit, does affect "future generations" through the stock of capital inherited by them.⁵²

Modigliani used the following analysis to support the hypothesis of the "new heretics":

Suppose we take as a starting-point a given G and some given combination of T and r consistent with full employment. Suppose further, as is generally assumed in Keynesian analysis, that to a first approximation consumption responds to taxes but not to interest rates. Now let the Government

⁵¹Ibid., p. 736.

⁵²Ibid., p. 736.

increase its expenditure by dG while keeping taxes constant. Then the deficit will increase precisely by $dD = dG$. What will happen to capital formation? If we are to maintain full employment without inflation we must have

$$dG + DC + DI = 0$$

and since, by assumption, taxes are constant and hence $dC = 0$, we have

$$dG = dD = -dI$$

i.e., the debt - financed expenditure must be accompanied by an equal reduction in capital formation (with the help of the appropriate monetary policy).

The amount of resources available for, and hence the level of private capital formation, is cut down precisely by the amount of the deficit-financed expenditure. It is also apparent that this expenditure puts no burden on the "current" members of the community. . . . But because capital formation has been cut by the amount of the deficit, the community will thereafter dispose of a stock of private capital curtailed to a corresponding extent.

Thus, the deficit-financed expenditure will leave in its wake an overall burden on the economy in the form of a reduced flow of income from the reduced stock of private capital.⁵³

The latest exchange of papers on this subject was initiated by E. J. Mishan of the London School of Economics. Professor Mishan admonished the protagonist of the "new heretic" set for even writing on the subject because of the adverse effects it might have on the uninformed. As for the merit of the "new heretics" argument to date Mishan stated:

My impression, for what it is worth, is that there is no evidence yet of any genuine class of ideas. While there has been a repeated marshalling of forces and some elaborate maneuvers executed by the insurgents, they appear to have issued only in loud claims to positions that are apparently not

⁵³Ibid., p. 738.

being contended, nor indeed were ever contended, by the supporters of the new orthodoxy.⁵⁴

After briefly reviewing Buchanan's no-sacrifice-because-of-voluntary-purchase analysis, Mishan concluded:

The reader will surely apprehend that there is nothing in this argument, if we provisionally accept it, that contradicts anything held by the new orthodoxy. It is still manifestly true that there is no method of finance available to any government enabling it to transfer real resources from the future into the present. It is also true that the government may have to redistribute some of the community's future output as between taxpayer and bondholder, and, as Buchanan reminds us, the taxpayer will feel the pinch.⁵⁵

Mishan did not stop with Buchanan, but next proceeded into an examination of the Bowen-Davis-Kopf analysis. Of Mishan's comments on the BDK analysis the following seem most significant:

. . . It is not the public debt per se that is responsible for the Bowen-Davis-Kopf burden but the wasteful expenditure that has left no legacy for the future.⁵⁶

Mishan dismisses the paper of Modigliani abruptly with the following comments:

. . . apart from attributing to notions of net worth the commonly accepted responses of taxpayers to tax and debt finance, it adds little to what has already been contended.

Modigliani finds the essence of the burden argument in a proposition that can be found lurking in Buchanan's book, a proposition developed in Musgrave's book, and one ascribed by Shoup to the classical economists, in particular Ricardo; mainly

⁵⁴Mishan, op. cit., p. 530.

⁵⁵Ibid., pp. 532-3. ⁵⁶Ibid., p. 537.

that the burden of the public debt consists in the loss of potential capital formation, and consequent reduction of potential future income.⁵⁷

Mishan's paper was to elicit a number of heated replies, the content of which, however, add nothing of value to this study. The Mishan paper concludes the examination of the various arguments and counter-arguments both pro and con on the subject of placing of the burden of public debt. The next apparent question, must be, what does it all mean, if anything?

Before proceeding with the conclusion, let us first review the discussion. The conservative economists defense has been both repeated and consistent. Their arguments have been: (1) the burden cannot be shifted onto future generations because there is no way in which to transfer real resources from the future to the present; (2) the analysis must be on the level of the nation as a whole; (3) since the "new heretics" have failed in every instance to refute (1), the liberals have no real argument with the accepted doctrine.

The "new heretics" propositions have been divided roughly into four schools of thought. Buchanan and Tullock support the proposition, that since the bonds are purchased voluntarily there can be no burden upon the purchaser; therefore, the burden must rest with the taxpayer present

⁵⁷Ibid., p. 537.

when the bonds are redeemed. The BDK analysis attributes the burden to a reduction in lifetime consumption. The Modigliani analysis attributes the burden to a reduction in the stock of capital available to future generations. In still another analysis, Miller attributes the burden to an illusion which makes the taxpayer seem richer than he actually is.

The "new heretics" have been consistent in thought in only two areas. First, they unanimously agree that the burden may be transferred or shifted onto a future generation. Secondly, their method of approach, while different in content, is alike in the fact that they do not attempt to disprove the doctrine of the "new orthodoxy", but only deny its assumptions.

The general approach of the "new heretics" has been to set forth assumptions, make hypotheses, and then devise an analogy which will support their hypothesis. Once their hypothesis is proven they assert that the doctrine of the "new orthodoxy" must be inappropriate since their proposition better serves the purpose of emphasizing the burden of public debt.

Repeatedly throughout the literature, the conservatives have contended that this is clearly a case of semantics. One needs only to review a few of the different models to ascertain the validity of this assertion. In almost every one of the models burden of debt has either

a different implied or defined meaning. For example, BDK begin their argument by acknowledging the validity of the accepted doctrine and then state that they are able to come to a different conclusion if they redefine burden. Hansen implies that real sacrifice or burden is the result of harder work and restricted consumption. Modigliani attributed the burden to a reduction in the future stock of capital.

The burden, as defined by the conservatives, seems to be quite vague and impersonal. However, there also existed just as much doubt in the various definitions of the liberals. In each of the arguments of the liberals there seems to be the implicit assumption that any government expenditure is wasteful. In any case, if the argument did acknowledge that the government expenditure could be productive it was then contended that the greater the productivity the smaller the burden. Another significant area of concern arose over the argument of the macro versus micro analysis. The "new orthodoxy" has chosen to minimize the implications of the limited capabilities of macroeconomics. Macroeconomics is the study of the aggregates of the economy, a study which is framed by a limited number of measurable variables. In such an analysis it is impossible to measure the multitude of effects that the public debt may impose upon the individuals of society. Therefore, if the aim is to measure the burden of debt upon the individual members of society -

and if the assumption cannot be made that the burden affects all members similarly - the analysis must be microeconomic.

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